

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

### ***Information Disclosure Statement***

2. The references listed in the Information Disclosure Statement submitted on 04/25/2008 have been considered by the examiner (see attached PTO-1449).

### ***Allowable Subject Matter***

3. Claims 1-51 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent **claims 1, 9, 17, 18, 26, 34, 35, 43 and 51**, the instant application is directed to a semiconductor device, a method of providing the semiconductor device, a mobile phone and a method of mobile communication using the semiconductor device. Each of the independent claims, combining with certain well-know features in the art, identifies the uniquely distinct features of providing semiconductor device, comprising:

converting (by using a first converter) a first digital audio signal sampled with a predetermined audio sampling frequency for digital audio into a second digital audio signal sampled with a predetermined voice sampling frequency for voice signals;

converting (by using a second converter) a first digital voice signal sampled with the predetermined voice sampling frequency into a second digital voice signal sampled with the predetermined audio sampling frequency;

digitally processing/computing (by using a first processing circuit) the second digital audio signal sampled with the predetermined voice sampling frequency and a digital voice signal; and

digitally processing/computing (by using a second processing circuit) the second digital voice signal sampled with the predetermined audio sampling frequency and the first digital audio signal sampled with the predetermined audio sampling frequency.

4. The prior art of record, Heyl (US 5,774, 567), Venkitachalam et al. (US 6,608,572 B2), Lin et al. (US 6,088,461), Leme et al. (US 6,154,161), Ito (US 6,683,927 B1), and IDS (abstracts) for Sogo Akira (JP 2002-256730), Nomura Toshiyuki (JP 2000-352999), Sato Shinichi (JP 2002-247156), and (JP10-513628), provided numerous teachings and techniques of mixing and converting audio signals/channels, including digitally mixing weighted sound inputs using delta sigma modulator and level adjustment circuits; providing integrated analog to digital and sample rate converter; using integrated audio processor circuit programmable for dynamically controlling/adjusting user-selected volume of the audio for multiple channels/inputs; providing digital filter over-sampling digital audio signal and digitally adding

the (audio) data, supplying program code for realizing the same functions by computer; providing integrated, multi-input audio mixer with channel selecting feature; using digital mixing circuit for two audio input with different sampling frequencies and one output with third sampling frequency; providing adding circuit with weighted addition of signal with sampling frequency conversion; synthesizing music data to be reproduce with a voice data; and using amplifier supplied with a rectified ringing voltage for wirebound telecommunication. However, the combined features stated above, are not anticipated by, nor made obvious over the prior art of the record.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

6. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop \_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:** 571-273-8300, (for formal communications intended for entry)

**Or:** 571-273-8300, (for informal or draft communications, and please label "PROPOSED" or "DRAFT")

If no Mail Stop is indicated below, the line beginning Mail Stop should be omitted from the address.

Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c)

Art Unit: 2626

and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

U.S. Patent and Trademark Office  
Customer Window, Mail Stop \_\_\_\_\_  
Randolph Building  
Alexandria , VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richmond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh  
June 5, 2008

/Richmond Dorvil/

Supervisory Patent Examiner, Art Unit 2626